REMARKS

This application has been reviewed in light of the Office Action dated March 17, 2005. Claims 1-16 are presented for examination. Claims 1-7, 11, 13, and 14 have been amended as discussed below. Claims 1-3 and 15 are in independent form. Favorable reconsideration is requested.

The title has been amended as indicated above.

Applicant notes that the Office Action includes an initialed PTO-1449 form for the Information Disclosure Statement filed February 5, 2004, but the Examiner has not initialed the cited Japanese abstract. Applicant respectfully requests that the Examiner return a new copy of the Form PTO-1449, indicating that the Japanese abstract was considered.

Applicant acknowledges with appreciation the allowance of Claims 15 and 16 and the indication that Claims 4-7, 9, and 11-14 would be allowable if rewritten in independent form. The latter claims have not been so rewritten, because, for the reasons given below, their base claim is believed to be allowable.

The Examiner has objected to Claims 4-7, 11, 13, and 14 for informalities. Applicant notes that the superscript on the variables α and α_0 is an indication of the angular units, i.e., degrees, whereas the subscript indicates whether the variable corresponds to the azimuth angle of the points of entry and exit of the contact area (α_0) or some other azimuth angle (α). It is respectfully submitted that one of ordinary skill in the art would readily understand this distinction. Nevertheless, the claims have been amended to remove the degree superscript from all occurrences of the variables α_0 and α, as, strictly speaking, it is not necessary to indicate units for a variable.

Claim 1 was rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2005/0005692 ("Giustino"). Claims 2 and 8 were rejected under 35 U.S.C. § 103(a) as being obvious over Giustino in view of U.S. Patent No. 6,763,288 ("Caretta"). Claims 3 and 10 have been rejected as obvious over Giustino in view of U.S. Patent No. 6,666,079 ("Poulbot").

Claim 1 is directed to a method of determining at least one characteristic of a tire selected from: the three components of a resultant of forces which are exerted by the road on the contact area of a tire, the self-alignment torque generated by the tire, the camber, and the pressure. The method includes obtaining at least two measurements of circumferential extension or contraction in at least one sidewall of the tire at two fixed points in space. The two points are situated at different azimuths, but at a same radius along the circumference. The method further includes calculating the characteristic from the measurements.

By contrast, Giustino relates to the measurement of sidewall torsion, i.e., the twisting of the sidewall that occurs when an outer portion of the sidewall shifts rotationally with respect to an inner portion. Sidewall torsion may occur, for example, when a braking maneuver is being performed. Giustino measures sidewall torsion by detecting the passing of radially-oriented patches using two external sensors that are at the same azimuth, but different radial distances. The measurement is based on the difference between the detection made by the inner sensor relative to the outer sensor (i.e., at the same azimuth, but different radii), rather than between two points at different azimuths, but the same radius, as recited in Claim 1.

While Giustino suggests that a second sensor or set of sensors may be provided at an additional azimuth location (see, e.g., para. 51), such sensors similarly are used to measure the difference between points at outer radius with respect to an inner radius, e.g., between a single outer sensor at the 90° or 270° position and the inner sensor at the 180° position (see para. 51).

Thus, Giustino does not describe or suggest obtaining at least two measurements of circumferential extension or contraction in at least one sidewall of the tire at two fixed points in space, which points are situated at different azimuths, but at a same radius along the circumference, as recited in Claim 1.

Accordingly, Claim 1 is believed to be patentable over Giustino.

Claim 2, which has been rewritten in independent form, recites, *inter alia*, that the circumferential contraction or extension of the sidewalls is estimated by measuring the distance between the cords of the carcass ply in the sidewalls. As acknowledged in the Office Action, Giustino does not disclose these claimed features, and the Examiner instead turns to Caretta in this regard.

Caretta relates to measurement of deformation of a tire using a sensor that detects the distance between the rim and the inner surface of the casing of the tire. This measurement is performed using a sensor (11) and reflecting element (12), which provide an indication of the movement of a point on the inner surface of the tire (7), in the area of the crown, and the inner surface of the rim (2) (see col. 10, lines 17-45). Caretta also discusses a method of measuring the deformation using optical triangulation (col. 10, lines 52-62; Fig. 10).

However, the measurements discussed in Caretta relate to deformation of a tire in a plane parallel to the cords, rather than a distance between the cords (the cords "[extend] axially from one bead to the other to form a toroidal structure," col. 7, lines 6-62). Thus, Caretta does not remedy the deficiencies of Giustino in this regard, and the combination of these references does not teach or suggest estimating the circumferential contraction or extension of the sidewalls by measuring the distance between the cords of the carcass ply in the sidewalls, as recited in Claim 2.

Accordingly, Claim 2 is believed to be patentable over Giustino and Caretta, no matter how they hypothetically may be combined.

Claim 3, which has been rewritten in independent form, recites, *inter alia*, that the circumferential contraction or extension of the sidewalls is estimated by measuring the distance between wires forming a sensor which measures a variation in capacitance linked with the distance separating two electrodes. As acknowledged in the Office Action, Giustino does not disclose these claimed features, and the Examiner instead turns to Poulbot in this regard.

Poulbot relates to a nail-type force sensor that may be embedded into a tire tread element. The sensor includes a rigid shank portion designed to be acted upon by the force desired to be measured and a head portion that is capable of being deformed when the shank is displaced.

Applicant notes that, in accordance with 35 U.S.C. §103(c)[1], Poulbot is not available as prior art, because that reference and the present invention were commonly

[1] See M.P.E.P. § 2146.

owned at the time the invention was made (both are assigned to the same entity, Michelin Recherche et Technique, S.A.), and Poulbot can only be applied under 35 U.S.C. § 102(e)/103, due to the PCT priority date of the present application, August 2, 2002. Applicant therefore respectfully requests that the Examiner withdraw this reference and indicate the allowability of Claim 3.

In any event, even if one were to combine the Poulbot's sensor with Giustino in the manner hypothesized by the Examiner, the result would be a system that measures sidewall torsion, rather than circumferential extension or contraction of the sidewall, as recited in Claim 3.

Accordingly, Claim 3 is believed to be patentable over Giustino and Poulbot, no matter how they hypothetically may be combined, notwithstanding the unavailability of Poulbot as prior art.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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